

Balancing The Demand For Data And Education

Tim Rielly
Streams Biologists
Missouri Department of Conservation

Missouri Stream Team Program

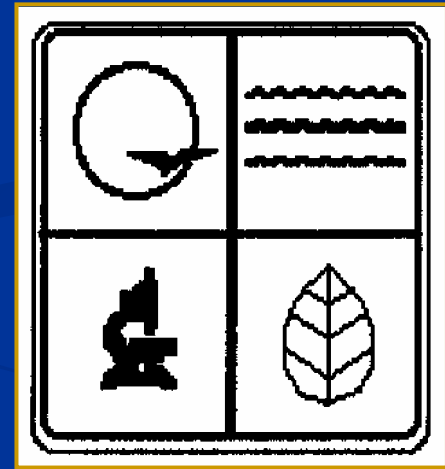
Multiple agency-sponsored water quality monitoring program



CFM



MDC



DNR

Missouri Volunteer Water Quality Monitoring Program (VWQM Program)

- Part of the Missouri Stream Team Program
- Free
- Open to anyone with an interest in water quality



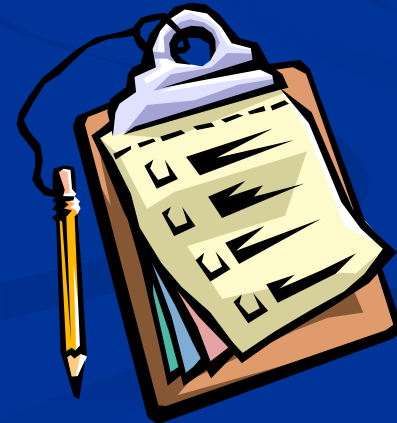
Goals of VWQM Program

- Inform and educate
- Establish a monitoring network
- Enable citizens
- Halt degradation
- Collect Baseline data



Expectations From Volunteers

- Share knowledge & information
- Periodically monitor a stream
- Submit data



Previous Workshop Structure

- Level 1
 - Watershed mapping
 - Visual survey
 - Macroinvertebrate monitoring
 - Water chemistry
 - Stream discharge
 - Safety & trespass

Intense!

Volunteers received \$350.00 in equipment

Previous Workshop Structure (cont.)

➤ Level 2

- QA/QC workshop, volunteers test certified standards and test their macroinvertebrate identification

➤ Level 3

- QA/QC stream side audit by agency personnel of methods, techniques and analyses

Data Return from Level 1 Volunteers

Approximately 17%



Problem 1: How can our Program meet the need for education and data?



- Solution: divide the Level 1 workshop into *two* workshops Introductory and Level 1
- Leave the Level 2 & Level 3 workshops unchanged



Problem 2: How do we get a better bang for our buck?

- Solution 1: Again, divide the workshop into two workshops, Introductory and Level 1
- Solution 2: Require participants who register for the Level 1 to:
 - attended an Intro Workshop
 - Select a site and submit visual and macroinvertebrate data once.

Current Introductory Workshop

➤ Covers

- Watersheds and watershed mapping
- Visual survey
- Macroinvertebrate monitoring
- Water chemistry - gives a background on chemistry, no equipment is supplied
- Safety and trespass
- Law and advocacy

Current Introductory Workshop Equipment

- Equipment received
 - Kick net
 - Forceps
 - Vials for invertebrate reference collection
 - VWQM (text) notebook
 - Invertebrate photos
- Equipment cost - \$47.25

Current Level 1 Workshop

- Covers
 - Water chemistry
 - Macroinvertebrate ID
 - Stream discharge
 - Safety
 - Gravel mining
- Chemical monitoring equipment is received after attending this workshop

Current Level 1 Workshop Equipment

- Chemical Monitoring Equipment
 - Dissolved Oxygen kit
 - Nitrate kit
 - pH pen
 - Conductivity pen
 - Thermometer
 - Turbidity tube

Current Level 1 Workshop Equipment (cont.)

- Stream Keepers Field Guide
- VWQM (text) notebook
- Tape Measure & practice golf ball
- Goggles
- Gloves
- Our cost - \$254.94

Results!

- Intro workshop saves money!
- Intro workshop provides education on water quality and “weeds” out those who may just want to learn or who may not understand the time commitment to monitor water quality

Results (cont.)

- Splitting one workshop into two workshops allows us to cover the subjects more thoroughly without rushing!
- Requiring volunteers to attend an Introductory workshop, and to have submitted data gives volunteers an idea of time commitment.

Results (cont.)

- The requirements have given the agencies a better return on data for the money spent on equipment and staff time.
- Data quality has improved since more attention can be given to the “meat” of the program, macroinvertebrate monitoring, visual survey, chemical monitoring and stream discharge.

SUNSET

